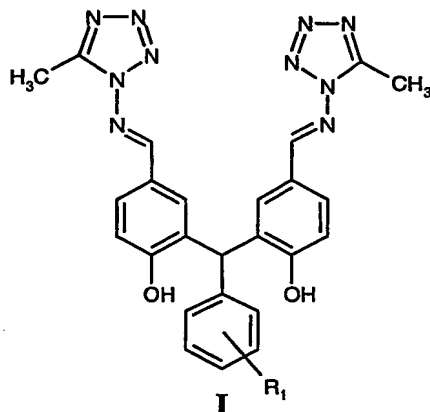


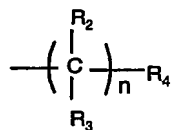
## WHAT IS CLAIMED IS:

1. A compound having the formula:

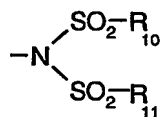


wherein:

$R_1$  represents a radical selected from the group consisting of



,  $-NR_5R_6$ ,  $-SO_2NR_7R_8$ , hydroxyalkyl, hydroxyalkoxy, polyhydroxyalkyl, alkoxyalkoxy, polyfluoroalkyl, dialkylaminoalkyl,  $R_9$ ,  $-OR_9$ ,



, and HET;  $n$  being an integer from 1 to 4;

$R_2$  and  $R_3$  are each independently selected from the group consisting of straight or branched chain alkyl and hydrogen;

$R_4$  is a radical selected from the group consisting of a substituted or unsubstituted phenyl radical, an unsubstituted or substituted heterocyclic radical, and  $-NR_{12}R_{13}$ ;

$R_5$  and  $R_7$  are independently selected from the group consisting of alkoxyalkyl, hydroxyalkyl, polyhydroxyalkyl, aralkyl,  $R_9$ ,  $-(C=O)R_{14}$  and  $-(C=O)R_9$ ;

$R_6$ ,  $R_8$ ,  $R_{12}$ , and  $R_{13}$  are independently selected from the group consisting of hydrogen, alkyl, alkoxyalkyl, polyfluoroalkyl, hydroxyalkyl, polyhydroxyalkyl, aralkyl,  $R_9$ ,  $-(C=O)R_{15}$  and  $-(C=O)R_9$ ;

or R<sub>5</sub> and R<sub>6</sub> taken together with the nitrogen to which they are attached form a substituted or unsubstituted heterocyclic radical, said heterocyclic radical optionally containing one to two additional heteroatoms independently selected from the group consisting nitrogen, oxygen, and sulfur;

or R<sub>7</sub> and R<sub>8</sub> taken together with the nitrogen to which they are attached form a substituted or unsubstituted heterocyclic radical, said heterocyclic radical optionally containing one to two additional heteroatoms independently selected from the group consisting nitrogen, oxygen, and sulfur;

said phenyl and heterocyclic radical substituents being at least one selected from the group consisting of alkyl, amino, hydroxy, carbonyl, monoalkylamino, dialkylamino, halogen, and alkoxy;

R<sub>9</sub> is a radical of the formula -W-O(C=O)-CH<sub>3</sub>, W being a straight- or branched- chain alkylene group of 1 to 6 carbon atoms;

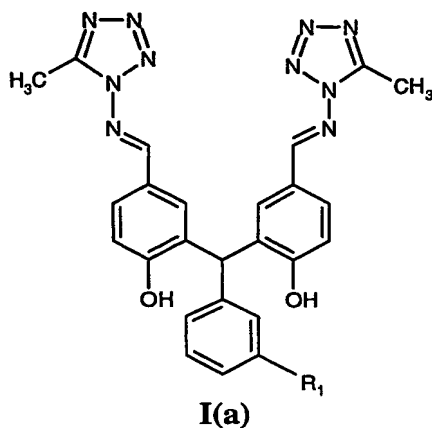
R<sub>10</sub> and R<sub>11</sub> are radicals independently selected from the group consisting of alkyl, halo, haloalkyl, and polyfluoroalkyl;

HET represents an unsubstituted or substituted five to seven membered heterocyclic ring containing one to four heteroatoms independently selected from nitrogen, oxygen or sulfur, whereby the point of attachment to the heterocyclic ring is not at a nitrogen atom, said heterocyclic ring substituents being one or more radicals selected from the group consisting of alkyl, amino, hydroxy, carbonyl, oxo, monoalkylamino, and dialkylamino;

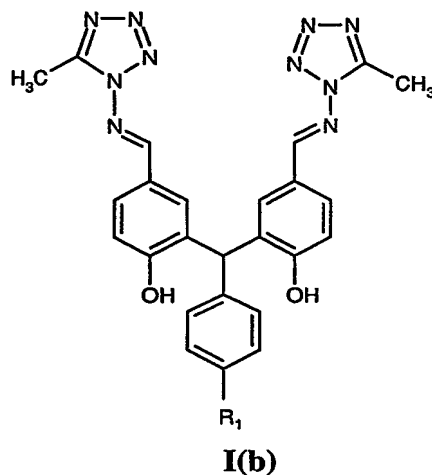
R<sub>14</sub> is a hydroxyalkyl, alkoxyalkyl or cycloalkyl group;

R<sub>15</sub> is an alkyl, hydroxyalkyl, alkoxyalkyl or cycloalkyl group, and pharmaceutically acceptable salts of said compound.

2. The compound according to claim 1 having the formula:



3. The compound according to claim 1 having the formula:



4. A compound according to claim 1, selected from the group consisting of:
- 2,2'-[[3-(2,2,2-Trifluoroethyl)phenyl]methylene]bis[4-[[[(5-methyl-1H-tetrazol-1-yl)imino]methyl]]phenol];
- 3-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxyphenyl]methylene]benzeneethanol, acetate ester;
- 3-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxyphenyl]methylene]benzeneethanol;

2,2'-[[3-(4-Morpholinyl)phenyl]methylene]bis[4-[(5-methyl-1H-tetrazol-1-yl)imino]methyl]]phenol;

2,2'-[[3-(1-Piperidiny)phenyl]methylene]bis[4-[(5-methyl-1H-tetrazol-1-yl)imino]methyl]]phenol;

3-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxyphenyl]methylene]-N,N-bis(methoxyethyl)benzenesulfonamide;

3-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxyphenyl]methylene]-N-(hydroxyethyl)-N-methylbenzenesulfonamide;

3-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxyphenyl]methylene]benzenepropanol;

2,2'-[[3-(4-Morpholinylsulfonyl)phenyl]methylene]bis[4-[(5-methyl-1H-tetrazol-1-yl)imino]methyl]]phenol;

2,2'-[[3-(Methoxyethoxy)phenyl]methylene]bis[4-[(5-methyl-1H-tetrazol-1-yl)imino]methyl]]phenol;

2,2'-[[[3-Bis(phenylmethyl)amino]phenyl]methylene]bis[4-[(5-methyl-1H-tetrazol-1-yl)imino]methyl]]phenol;

3-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxyphenyl]methylene]phenoxyethanol, acetate ester;

3-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxyphenyl]methylene]-N-(acetoxylethyl)-N-methylbenzenesulfonamide;

3-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxyphenyl]methylene]phenoxyethanol;

2-Hydroxy-N-[[3-[bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxyphenyl]methylene]phenyl]-N-(methylethyl)acetamide;

2-(Acetyloxy)-N-[3-[bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxyphenyl]methylene]phenyl]-N-propylacetamide;

2,2'-[[3-[1-(4-Methylpiperazinyl)methyl]phenyl]methylene]bis[4-[(5-methyl-1H-tetrazol-1-yl)imino]methyl]]phenol;

2,2'-[[3-(Diethylaminomethyl)phenyl]methylene]bis[4-[(5-methyl-1H-tetrazol-1-yl)imino]methyl]]phenol;

2,2'-[[3-(Dimethylaminomethyl)phenyl]methylene]bis[4-[(5-methyl-1H-tetrazol-1-yl)imino]methyl]]phenol;

2,2'-[[3-[4-(Morpholinyl)methyl]phenyl]methylene]bis[4-[(5-methyl-1H-tetrazol-1-yl)imino]methyl]]phenol;

2,2'-[[3-[N-(4-Hydroxybutyl)-N-ethylamino]phenyl]methylene]bis[4-[(5-methyl-1H-tetrazol-1-yl)imino]methyl]]phenol;

2-(Acetyloxy)-N-[3-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxyphenyl]methylene]phenyl]-2-methylpropanamide;

N-[3-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxylphenyl]methylene]phenyl]-2-methoxyacetamide;

N-[3-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxylphenyl]methylene]phenyl]-cyclopropanecarboxamide;

N-[3-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxylphenyl]methylene]phenyl]-N-(butylsulfonyl)butane sulfonamide;

N-[3-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxylphenyl]methylene]phenyl]-N-(2,2,2-trifluoroethylsulfonyl)-2,2,2-trifluoroethane sulfonamide;

N-[3-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxylphenyl]methylene]phenyl]-2-hydroxy-2-methyl-propanamide;

N-[3-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxylphenyl]methylene]phenyl]-N-(propylsulfonyl)propane sulfonamide;

N-[3-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxylphenyl]methylene]phenyl]-N-(3-chloropropylsulfonyl)-3-chloropropane sulfonamide;

2-(Acetyloxy)-N-[3-[[bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxyphenyl]methylene]phenyl]acetamide;

N-[3-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxylphenyl]methylene]phenyl]-N-(methylsulfonyl)methane sulfonamide;

2,2'-[[3-[2-(1,1-Dioxide-2,3,4,5-tetrahydro)isothiazolyl]phenyl]methylene]bis[4-[(5-methyl-1H-tetrazol-1-yl)imino]methyl]]phenol;

2-Hydroxy-N-[3-[[bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxylphenyl]methylene]phenyl]acetamide;

2,2'-[[3-[N-(3-Hydroxypropyl)-N-ethylamino]phenyl]methylene]bis[4-[[5-methyl-1H-tetrazol-1-yl]imino]methyl]]phenol;

2,2'-[[3-[N-(2-Hydroxyethyl)-N-ethylamino]phenyl]methylene]bis[4-[[5-methyl-1H-tetrazol-1-yl]imino]methyl]]phenol;

2,2'-[[3-[1-(4-Hydroxypiperidiny)]phenyl]methylene]bis[4-[[5-methyl-1H-tetrazol-1-yl]imino]methyl]]phenol;

2,2'-[[3-[N-(3-Hydroxypropyl)-N-methylamino]phenyl]methylene]bis[4-[[5-methyl-1H-tetrazol-1-yl]imino]methyl]]phenol;

2,2'-[[3-[N-(4-Acetoxymethyl)-N-ethylamino]phenyl]methylene]bis[4-[[5-methyl-1H-tetrazol-1-yl]imino]methyl]]phenol;

2,2'-[[3-[N-(2-Hydroxyethyl)-N-methylamino]phenyl]methylene]bis[4-[[5-methyl-1H-tetrazol-1-yl]imino]methyl]]phenol;

2,2'-[[3-[N-(4-Hydroxybutyl)-N-methylamino]phenyl]methylene]bis[4-[[5-methyl-1H-tetrazol-1-yl]imino]methyl]]phenol;

2,2'-[[3-[N-(2-Hydroxyethyl)-N-propylamino]phenyl]methylene]bis[4-[[5-methyl-1H-tetrazol-1-yl]imino]methyl]]phenol;

2,2'-[[3-[N-(4-Hydroxybutyl)-N-propylamino]phenyl]methylene]bis[4-[[5-methyl-1H-tetrazol-1-yl]imino]methyl]]phenol;

2,2'-[[3-[N-(6-Hydroxyhexyl)-N-ethylamino]phenyl]methylene]bis[4-[[5-methyl-1H-tetrazol-1-yl]imino]methyl]]phenol; and

2,2'-[[3-[N-(5-Hydroxypentyl)-N-ethylamino]phenyl]methylene]bis[4-[[5-methyl-1H-tetrazol-1-yl]imino]methyl]]phenol.

5. A compound according to claim 1, selected from the group consisting of:

4-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxyphenyl]methylene]-N,N-bis(methoxyethyl)benzenesulfonamide;

4-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxyphenyl]methylene]benzeneethanol;

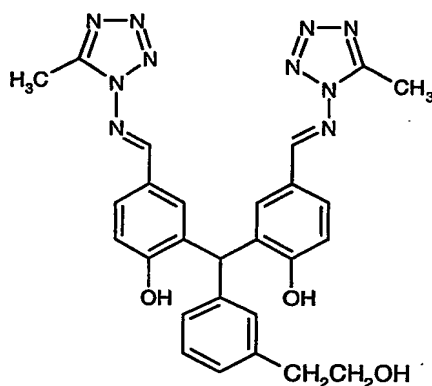
2,2'-[[4-(4-Morpholinylsulfonyl)phenyl]methylene]bis[4-[[5-methyl-1H-tetrazol-1-yl]imino]methyl]]phenol;

2,2'-[[4-(4-Morpholinyl)phenyl]methylene]bis[4-[[[(5-methyl-1H-tetrazol-1-yl)imino]methyl]]phenol];

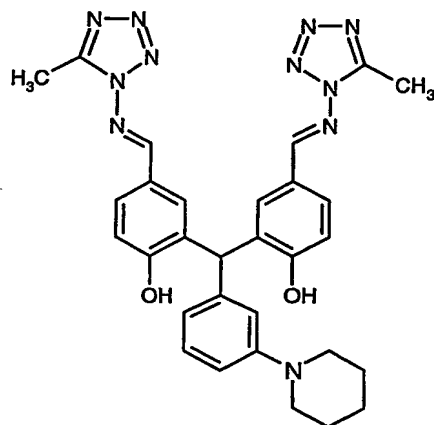
4-[[Bis[[5-(5-methyl-1H-tetrazol-1-yl)imino]methyl]-2-hydroxyphenyl]methylene]benzeneethanol, acetate ester; and

2,2'-[[4-(1-Piperidiny)phenyl]methylene]bis[4-[[[(5-methyl-1H-tetrazol-1-yl)imino]methyl]]phenol].

6. The compound according to claim 1 having the formula:



7. The compound according to claim 1 having the formula:



8. The compound according to claim 1 having the name 2,2'-[[3-[N-(4-Hydroxybutyl)-N-ethylamino]phenyl]methylene]bis[4-[[[(5-methyl-1H-tetrazol-1-yl)imino]methyl]]phenol].

9. The compound according to claim 1 having the name 2,2'-[[3-[N-(2-Hydroxyethyl)-N-methylamino]phenyl]methylene]bis[4-[[5-methyl-1H-tetrazol-1-yl)imino]methyl]]phenol.

10. The compound according to claim 1 having the name 2,2'-[[3-[N-(2-Hydroxyethyl)-N-ethylamino]phenyl]methylene]bis[4-[[5-methyl-1H-tetrazol-1-yl)imino]methyl]]phenol.

11. A pharmaceutical composition for treating or preventing pneumovirus infection, said composition comprising a compound according to claim 1 in an amount effective to attenuate infectivity of said virus, and a pharmaceutically acceptable carrier medium.

12. A pharmaceutical composition according to claim 11, further comprising at least one supplemental active agent selected from the group consisting of interferons, ribavirin and immunomodulators, immunoglobulins, anti-inflammatory agents, antibiotics, anti-virals and anti-infectives.

13. A pharmaceutical composition according to claim 11, wherein said pharmaceutically acceptable carrier medium comprises ethanol.

14. A pharmaceutical composition according to claim 11, wherein said pharmaceutically acceptable carrier medium comprises propylene glycol.

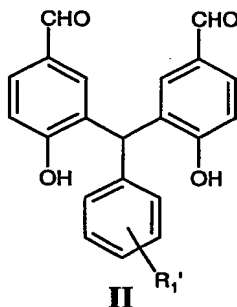
15. A pharmaceutical composition according to claim 11, wherein said pharmaceutically acceptable carrier medium comprises water.

16. A pharmaceutical composition according to claim 13, wherein said pharmaceutically composition comprises at least 50% ethanol.



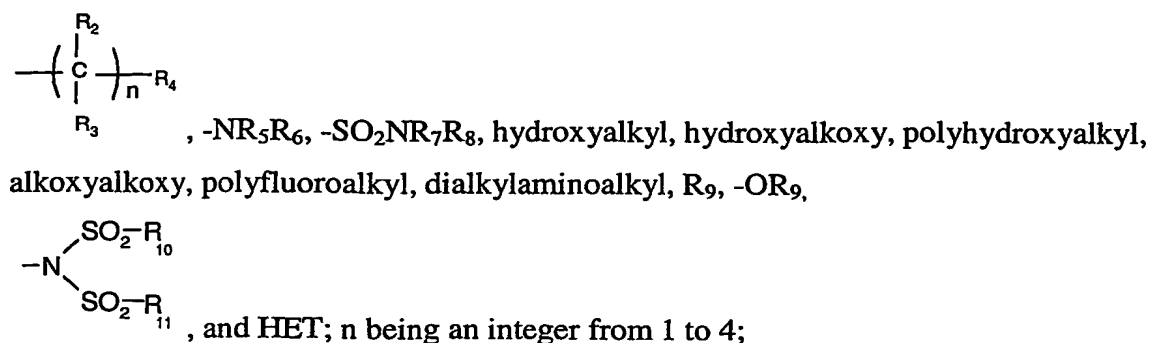
17. A pharmaceutical composition according to claim 13, wherein said pharmaceutically composition comprises at least 60% ethanol.
18. A pharmaceutical composition according to claim 13, wherein said pharmaceutically composition comprises at least 7% ethanol.
19. A pharmaceutical composition according to claim 13, wherein said pharmaceutically composition comprises at least 80% ethanol.
20. A pharmaceutical composition according to claim 13, wherein said pharmaceutically composition comprises at least 90% ethanol.
21. A pharmaceutical composition according to claim 20, wherein said pharmaceutically composition comprises less than 5% water.
22. A pharmaceutical composition according to claim 13, wherein said pharmaceutically acceptable carrier medium comprises ethanol, water, and propylene glycol.
23. A pharmaceutical composition according to claim 22, wherein said pharmaceutically composition comprises about 85% ethanol, about 10% propylene glycol, and about 5% water.
24. A method of treatment of pneumovirus infection in a patient in need of said treatment, said method comprising administering to said patient a therapeutically effective amount of a compound according to claim 1.
25. A method as claimed in claim 24, wherein said compound is administered through inhalation.
26. A method as claimed in claim 24, wherein said compound is administered by an electrostatic delivery device.

27. A method as claimed in claim 26, wherein said electrostatic delivery device is hand-held.
28. A method as claimed in claim 26, wherein said electrostatic delivery device is disposable.
29. A method as claimed in claim 26, wherein said electrostatic delivery device is for a single user.
30. A method as claimed in claim 26, wherein said electrostatic delivery device comprises a removable mouthpiece.
31. A method as claimed in claim 26, wherein said electrostatic delivery device comprises a mask.
32. A method of treating cells in culture that are susceptible to infection by, or infected or contaminated with a pneumovirus, said method comprising administering to said cultures an effective amount of a compound according to claim 1.
33. A method of treating biological materials that are susceptible to infection by, or infected or contaminated with a pneumovirus, said method comprising administering to said materials an effective amount of a compound according to claim 1.
34. A compound having the formula:



wherein:

$R_1'$  represents a radical selected from the group consisting of



$R_2$  and  $R_3$  are each independently selected from the group consisting of straight or branched chain alkyl and hydrogen;

$R_4$  is a radical selected from the group consisting of a substituted or unsubstituted phenyl radical, an unsubstituted or substituted heterocyclic radical, and  $-NR_{12}R_{13}$ ;

$R_5$  and  $R_7$  are independently selected from the group consisting of alkoxyalkyl, hydroxyalkyl, polyhydroxyalkyl, aralkyl,  $R_9$ ,  $-(C=O)R_{14}$  and  $-(C=O)R_9$ ;

$R_6$ ,  $R_8$ ,  $R_{12}$ , and  $R_{13}$  are independently selected from the group consisting of hydrogen, alkyl, alkoxyalkyl, polyfluoroalkyl, hydroxyalkyl, polyhydroxyalkyl, aralkyl,  $R_9$ ,  $-(C=O)R_{15}$  and  $-(C=O)R_9$ ;

or  $R_5$  and  $R_6$  taken together with the nitrogen to which they are attached form a substituted or unsubstituted heterocyclic radical, said heterocyclic radical optionally containing one to two additional heteroatoms independently selected from the group consisting nitrogen, oxygen, and sulfur;

or  $R_7$  and  $R_8$  taken together with the nitrogen to which they are attached form a substituted or unsubstituted heterocyclic radical, said heterocyclic radical optionally containing one to two additional heteroatoms independently selected from the group consisting nitrogen, oxygen, and sulfur;

said phenyl and heterocyclic radical substituents being at least one selected from the group consisting of alkyl, amino, hydroxy, carbonyl, monoalkylamino, dialkylamino, halogen, and alkoxy;

$R_9$  is a radical of the formula  $-W-O(C=O)-CH_3$ ,  $W$  being a straight- or branched- chain alkylene group of 1 to 6 carbon atoms;

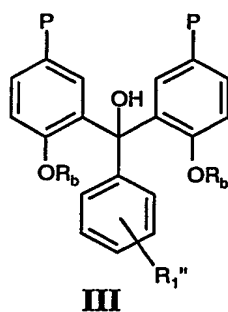
$R_{10}$  and  $R_{11}$  are radicals independently selected from the group consisting of alkyl, halo, haloalkyl, and polyfluoroalkyl;

HET represents an unsubstituted or substituted five to seven membered heterocyclic ring containing one to four heteroatoms independently selected from nitrogen, oxygen or sulfur, whereby the point of attachment to the heterocyclic ring is not at a nitrogen atom, said heterocyclic ring substituents being one or more radicals selected from the group consisting of alkyl, amino, hydroxy, carbonyl, oxo, monoalkylamino, and dialkylamino;


$R_{14}$  is a hydroxyalkyl, alkoxyalkyl or cycloalkyl group;

$R_{15}$  is an alkyl, hydroxyalkyl, alkoxyalkyl or cycloalkyl group, and pharmaceutically acceptable salts of said compound.

35. A compound having the formula:

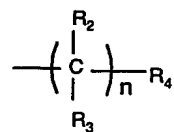


wherein  $R_b$  is selected from the group consisting of  $-\text{CH}_2\text{OCH}_3$ ,  $-\text{CH}_2\text{OCH}_2\text{CH}_3$ , -

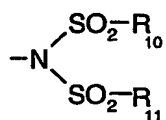
$\text{CH}(\text{CH}_3)\text{OCH}_2\text{CH}_3$ ,  $-\text{CH}_2-\text{OCH}_2\text{CH}_2-\text{OCH}_3$ , ,  $-\text{CH}_2-\text{OCH}_2\text{CH}_2-\text{Si}(\text{CH}_3)_3$ ,  $-\text{CH}_3$ ,  $-\text{CH}_2\text{C}_6\text{H}_5$ ,  $-(\text{CH}_2)_2\text{Si}(\text{CH}_3)_3$ ,  $-\text{CON}(\text{R}_c\text{R}_d)_2$ ,  $-\text{CSN}(\text{R}_c\text{R}_d)_2$ , and  $-\text{PO}(\text{NR}_c\text{R}_d)_2$ ;

$R_c$  and  $R_d$  are independently selected from an alkyl group;

$R_{1''}$  represents a radical selected from the group consisting of



,  $-\text{NR}_5\text{R}_6$ ,  $-\text{SO}_2\text{NR}_7\text{R}_8$ , hydroxyalkyl, hydroxyalkoxy, polyhydroxyalkyl, alkoxyalkoxy, polyfluoroalkyl, dialkylaminoalkyl,  $R_9$ ,  $-\text{OR}_9$ ,



, and HET; n being an integer from 1 to 4;

R<sub>2</sub> and R<sub>3</sub> are each independently selected from the group consisting of straight or branched chain alkyl and hydrogen;

R<sub>4</sub> is a radical selected from the group consisting of a substituted or unsubstituted phenyl radical, an unsubstituted or substituted heterocyclic radical, and -NR<sub>12</sub>R<sub>13</sub>;

R<sub>5</sub> and R<sub>7</sub> are independently selected from the group consisting of alkoxyalkyl, hydroxyalkyl, polyhydroxyalkyl, aralkyl, R<sub>9</sub>, -(C=O)R<sub>14</sub> and -(C=O)R<sub>9</sub>;

R<sub>6</sub>, R<sub>8</sub>, R<sub>12</sub>, and R<sub>13</sub> are independently selected from the group consisting of hydrogen, alkyl, alkoxyalkyl, polyfluoroalkyl, hydroxyalkyl, polyhydroxyalkyl, aralkyl, R<sub>9</sub>, -(C=O)R<sub>15</sub> and -(C=O)R<sub>9</sub>;

or R<sub>5</sub> and R<sub>6</sub> taken together with the nitrogen to which they are attached form a substituted or unsubstituted heterocyclic radical, said heterocyclic radical optionally containing one to two additional heteroatoms independently selected from the group consisting nitrogen, oxygen, and sulfur;

or R<sub>7</sub> and R<sub>8</sub> taken together with the nitrogen to which they are attached form a substituted or unsubstituted heterocyclic radical, said heterocyclic radical optionally containing one to two additional heteroatoms independently selected from the group consisting nitrogen, oxygen, and sulfur;

said phenyl and heterocyclic radical substituents being at least one selected from the group consisting of alkyl, amino, hydroxy, carbonyl, monoalkylamino, dialkylamino, halogen, and alkoxy;

R<sub>9</sub> is a radical of the formula -W-O(C=O)-CH<sub>3</sub>, W being a straight- or branched- chain alkylene group of 1 to 6 carbon atoms;

R<sub>10</sub> and R<sub>11</sub> are radicals independently selected from the group consisting of alkyl, halo, haloalkyl, and polyfluoroalkyl;

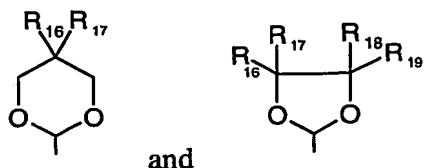
HET represents an unsubstituted or substituted five to seven membered heterocyclic ring containing one to four heteroatoms independently selected from nitrogen, oxygen or sulfur, whereby the point of attachment to the heterocyclic ring is not at a nitrogen atom, said

heterocyclic ring substituents being one or more radicals selected from the group consisting of alkyl, amino, hydroxy, carbonyl, oxo, monoalkylamino, and dialkylamino;

R<sub>14</sub> is a hydroxyalkyl, alkoxyalkyl or cycloalkyl group;

R<sub>15</sub> is an alkyl, hydroxyalkyl, alkoxyalkyl or cycloalkyl group;

P is a protected formaldehyde group selected from the group consisting of



wherein R<sub>16</sub>, R<sub>17</sub>, R<sub>18</sub> and R<sub>19</sub> are independently selected from the group consisting of hydrogen and alkyl; and pharmaceutically acceptable salts of said compound.